

Amendment and Response

Applicant: Steven W. Trovinger

Serial No.: 10/681,315

Filed: Oct. 9, 2003

Docket No.: 200206080/H304.207.101

Title: SHEET FOLDING AND TRIMMING APPARATUS

REMARKS

The following remarks are made in response to the non-final Office Action mailed Feb. 9, 2006, in which claims 1-20 were rejected. With this Response, claim 15 has been amended. Claims 1-20 remain pending in the application and are presented for reconsideration and allowance.

In the Specification

The specification has been amended to correct typographical errors present in the specification.

Paragraph [0016] has been amended to correct the sequential lettering of the listed steps, in which the letter "c" was used for two different steps. The correction of paragraph [0016] mirrors the correction of claim 15.

Paragraph [0033] has been amended to correct the reference to Fig. 5A occurring on page 8, line 1. The specification should properly reference Fig. 5B, as presented in the amended paragraph [0033].

Claim Rejections under 35 U.S.C. § 103

Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mandel et al. (U.S. Patent No. 5,377,965) in view of Colvin (U.S. Patent No 5,457,904).

The Office Action alleges that Mandel et al. discloses a sheet folding and trimming method and apparatus including a plurality of rollers (16, 26, Fig. 1) for forming a fold in a sheet, and a trimming apparatus (48, Fig. 1) including at least one cutting blade configured to trim the folded sheet. Mandel et al. is alleged to disclose all the claimed limitations, except for the trimming of the folded sheet on three unfolded sides. To overcome the acknowledged deficiency of Mandel et al., the Office Action cites Colvin as allegedly teaching trimming the folded sheet on three unfolded sides (Fig. 5) to make all three sides aligned. The Office Action concludes it would have been obvious to one having ordinary skill in the art at the time the invention was made to trim the folded sheet on three unfolded sides as allegedly taught by Colvin in the sheet folding and trimming method and apparatus of Mandel et al. to make all three sides aligned.

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The rejection of claim 1 is respectfully traversed. Referring to Section 706.02 (j) of the MPEP, to establish a *prima facie* case of obviousness, three basic criteria must be met:

- (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine reference teachings;
- (2) There must be reasonable expectation of success;
- (3) The prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Appellant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (F.E.D. Cir. 1991).

Independent claim 1 claims a sheet folding and trimming apparatus comprising: a folding apparatus including a plurality of rollers for forming a fold in a sheet; and a sheetwise trimming apparatus including at least one cutting blade configured to trim the folded sheet from the folding apparatus on three unfolded sides of the folded sheet in a sheetwise manner.

Applicants respectfully submit that the combination of Mandel et al. and Colvin cannot support a case of *prima facie* obviousness as to claim 1 because, among other possible reasons, the combination of references fails to disclose all of the elements of the present invention. In particular, neither Mandel et al. nor Colvin teach or suggest **a sheetwise trimming apparatus including at least one cutting blade configured to trim the folded sheet from the folding apparatus on three unfolded sides of the folded sheet in a sheetwise manner.**

Neither Mandel et al. nor Colvin teach or suggest trimming the folded sheet "in a sheetwise manner". As set forth in the specification at Paragraph [0029], sheetwise trimming "means the trimming of single folded sheets or a small number of sheets with a low powered trimming device. The sheets trimmed with a sheetwise trimming apparatus are trimmed separately and assembled and bound into a text body." Contrary to the definition of sheetwise trimming as provided in the application, Mandel et al. teaches simultaneous trimming of all the sheets only after folding, compiling and binding all of the sheets which form the text body. This deficiency of Mandel et al. is not remedied by Colvin, which teaches simultaneous trimming of all the sheets which form the final text body in a single operation. Sheetwise trimming as used in the present application is simply not taught or suggested by the cited references.

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In addition, neither Mandel et al. nor Colvin teach a sheetwise trimming apparatus including at least one cutting blade configured to trim the folded sheet from the folded apparatus on three unfolded sides of the folded sheet. As acknowledged in the Office Action, Mandel et al. fails to teach trimming of the folded sheet on three unfolded sides. Although the Office Action attempts to overcome the acknowledged deficiency of Mandel et al. with the teachings of Colvin, Applicant respectfully submits that Colvin fails to teach trimming the folded sheet on three *unfolded* sides. As clearly seen in Fig. 5 of Colvin, the elaborate folding of each section 124 of web 120 results in folds along all four sides of the folded sheets. Thus, although Colvin teaches trimming off of three of the four edges, the trimmed edges are not unfolded sides as set forth in independent claim 1.

For at least these reasons, Applicant respectfully submits that independent claim 1 is not obvious in view of the combination of Mandel et al. and Colvin, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Dependent claims 2-11 depend, either directly or indirectly, from independent claim 1, which is allowable for at least the reasons set forth above. Accordingly, withdrawal of the rejection of claims 2-11 under 35 U.S.C. §103(a) is respectfully requested.

In addition, regarding dependent claim 4, Applicant respectfully submits that Mandel et al. and Colvin, individually and in combination, fail to teach or suggest **wherein one of the two advancing rollers functions as one of the two folded rollers**. Mandel et al. teaches that the pair of rollers 16 advance sheet 18 into fold plate 20, while fold rollers 26 and 27 fold sheet 18. There is no teaching or suggestion in Mandel et al. that one of the two rollers 16 that advance sheet 18 may also function as one of the folding rollers, as set forth in dependent claim 4. Colvin makes no teaching regarding the mechanism for folding section 124, so cannot remedy the noted deficiency of Mandel et al. For at least these reasons, dependent claim 4 is not made obvious by the combination of references.

Regarding dependent claim 6, Applicant respectfully submits that Mandel et al. and Colvin, individually and in combination, fail to teach or **suggest wherein the at least one cutting blade of the sheetwise trimming apparatus is movable with respect to the transport system to cut sheets of different sizes**. In Mandel et al., the knife 48 is not movable to cut sheets of different sizes; rather, gate 47 is moved to position the set of collated and bound sheets for trimming. Again, Colvin makes no teaching or suggestion regarding the

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mechanism for trimming sheet 124 and therefore cannot remedy the noted deficiencies of Mandel et al. For at least these reasons, dependent claim 6 is not made obvious by the combination of references.

Regarding dependent claims 7 and 8, Applicant respectfully submits that Mandel et al. and Colvin, individually and in combination, fail to teach or suggest **an assembling apparatus for assembling a plurality of folded and trimmed sheets into a booklet, the assembling apparatus including an opening roller for folding the folded and trimmed sheets and an advancing apparatus for advancing a sheet into an opened sheet**. In Mandel et al., folded and *untrimmed* sheets are assembled. The sheets are only trimmed after compiling and binding the assembled folded sheets. In addition, Mandel et al. fails to teach or suggest that the assembling apparatus includes an opening roller for opening folded and trimmed sheets. The Office Action characterizes compiler 30 as the claimed opening roller. However, the saddle-shaped compiler 30 of Mandel et al. is clearly not a roller. Finally, compiler 30 does not advance a sheet *into* an opened sheet. Rather, the compiler 30 advances a sheet *over* a prior positioned sheet. Colvin fails to overcome the noted deficiencies of Mandel et al., as the saddle 148 of Colvin is similar to the compiler 30 of Mandel et al. For at least these reasons, dependent claims 7 and 8 are not made obvious by the combination of references.

Regarding dependent claim 10, Applicant respectfully submits that Mandel et al. and Colvin, individually and in combination, fail to teach or suggest **trimming on a third edge of the folded sheet at a variable location determined on a sheet by sheet basis based on a size of the booklet and a location of a sheet in the booklet**. In both Mandel et al. and Colvin, trimming of the sheets occurs en masse such that the location for trimming is not variable and is not determined on a sheet by sheet basis, nor does the trimming location vary based on a size of the booklet and a location of the sheet in the booklet. For at least these reasons, dependent claim 10 is not made obvious by the combination of references.

Regarding independent claim 12, the Office Action states that the apparatus of Mandel et al. as modified by the teachings of Colvin meets all the limitations of claim 12. The Examiner's rejection of independent claim 12 is respectfully traversed.

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Independent claim 12 claims a booklet making apparatus comprising: a folding apparatus including a plurality of rollers configured to form a folded sheet; a sheetwise trimming apparatus including at least one cutting blade configured to trim the folded sheet from the folding apparatus on three unfolded sides of the folded sheet in a sheetwise manner; and an assembling apparatus for assembling a plurality of folded and trimmed sheets into a booklet, the assembling apparatus including an opening roller for opening the folded and trimmed sheets.

Applicant respectfully submits that the references, alone or in combination, fail to teach **a sheetwise trimming apparatus including at least one cutting blade configured to trim the folded sheet from the folding apparatus on three unfolded sides of the folded sheet in a sheetwise manner**. Specifically, as set forth above with regard to independent claim 1, the references fail to teach or suggest *sheetwise* trimming, and further fail to teach or suggest trimming on three *unfolded* sides of the folded sheet. In addition, as set forth above with regard to dependent claims 7 and 8, the references fail to teach or suggest **an assembling apparatus for assembling a plurality of folded and trimmed sheets into a booklet, the assembling apparatus including an opening roller for opening the folded and trimmed sheets**. Thus, for at least the reasons set forth above, independent claim 12 is not obvious in view of Mandel et al. and Colvin, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Dependent claim 13 and 14 depend directly from independent claim 12, which is allowable for at least the reasons set forth above. Accordingly, dependent claims 13 and 14 are also in allowable condition and withdrawal of the rejection of those claims under 35 U.S.C. §103(a) is respectfully requested. In addition, the remarks set forth above with regard to dependent claim 10 are equally applicable to dependent claim 13. Specifically, the references fail to teach or suggest trimming at a location determined on a sheet by sheet basis based on a size of the booklet and a location of the sheet in the booklet. Regarding claim 14, although no specific comments regarding the rejection are made in the Office Action, the remarks presented above with regard to dependent claim 6 are equally applicable to dependent claim 14, as the references teach moving of the gate 47, rather than of the blade 48.

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Regarding independent claim 15, the Office Action simply states that the method of Mandel et al. as modified by Colvin meets all of the claimed limitations. The rejection of independent claim 15 is respectfully traversed.

Independent claim 15 has been amended to correct a typographical error in the claim. Specifically, claim 15 has been amended to correct the sequential lettering of the listed steps, in which the letter "c" was used for two different steps. As amended, claim 15 now correctly recites steps (a)-(e).

Claim 15 sets forth a method of forming a bound text body comprising steps of folding, trimming, assembling and then binding the text body. This is in sharp contrast to the method of Mandel et al. in which sheets are folded, compiled, bound and then, as a final step, trimmed. Clearly, Mandel et al. does not teach repeating the steps of folding a sheet and then trimming the edges of the sheet (steps (a) and (b) in Claim 15) prior to assembling the plurality of folded and trimmed sheets into a text body. Rather, all of the sheets in Mandel et al. are folded and assembled prior to trimming. Colvin et al. fails to remedy the deficiency of Mandel et al., as the trimming step of Colvin occurs after all of the sheets are assembled. Thus, for at least the reasons set forth above, independent claim 15 is not obvious in view of Mandel et al. and Colvin, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Dependent claims 16-20 depend, either directly or indirectly, from independent claim 15, which is allowable for at least the reasons set forth above. Accordingly, dependent claims 16-20 are also allowable and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

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CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-20 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-20 is respectfully requested.

Any inquiry regarding this Response should be directed to either Matthew B. McNutt at Telephone No. (512) 231-0531, Facsimile No. (512) 231-0540, or Susan E. Heminger at Telephone No. (650) 236-2738, Facsimile No. (650) 852-8063. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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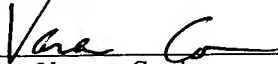
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By 
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